IN THE SPECIFICATION

After the Title on page 1, please insert the following section headings:

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

Page 1, between lines 4 and 5, please insert the section heading:

DISCUSSION OF THE BACKGROUND

Please replace the paragraph beginning at page 2, line 8 with the following rewritten paragraph:

On reception, the information is decoded by means of the turbodecoder depicted in Fig. lb. After deinterleaving in the channel deinterleaver 145, the information x, y_1, and y_2 is demultiplexed by the demultiplexer 150. The elementary decoders 160 and 170, for example of the Log MAP type, correspond and respectively to the elementary coders 110 and 120. The decoder 160, of the weighted input and output type, receives a priori information on x and the coded information y_1, in order to derive therefrom a posteriori information on x. The difference between the a posteriori information and the a priori information is called extrinsic information. The a priori information on x and the extrinsic information e_1 supplied by the first decoder are interleaved by interleavers 165 and 166 and then added at 167 in order to supply to the decoder 170 new a priori information on x (or more precisely on x', the interleaved version of x). The decoder 170 estimates, from this a priori information and the coded information y_2, a posteriori information on x'. The intrinsic information e'_2 is derived therefrom by difference in 171 before being deinterleaved in the deinterleaver 180 and is then added at 151 to the systematic information in order to supply new a priori information on x to the decoder 160. The decoding steps are then repeated, for a predetermined number of iterations $n_{iterations}$. The flexible values at the output of the decoder 170 are submitted to a

decision device 190 in order to supply hard values. An error correction check 195 operating on the output of 190 determines whether the decoded block is error-free and, in the affirmative, interrupts the iterations without having to await the predetermined number $n_{iterations}$. Alternatively, in order to decide on the stoppage of the iterations, the turbodecoder can use, instead of a CRC, another stoppage criterion on the weighted values, such as the one disclosed, for example, in the article by J. Hagenauer et al. entitled "Iterative decoding of binary block and convolutional codes", IEEE Transactions on Information Theory, vol. 42, pp. 429-445, published in March 1996, or in the article by M. Moher entitled "Decoding via cross entropy minimization", in Proc. IEEE Globecom Conf., Houston, TX, pp. 809-813, published in December 1993.

Please replace the paragraph beginning at page 3, line 11, with the following rewritten paragraph:

Fig. 2b illustrates schematically the structure of a turboequaliser. It will be assumed that the data were, on the same side as the transmitter depicted in Fig. 2a, the subject of channel coding in a coder 201 before being interleaved in an interleaver 202 and subjected to M-ary to symbol mapping in the modulator 203. The data are transmitted in the form of a block of symbols interleaved by the channel interleaver 204. The turboequaliser comprises first of all a cannel deinterleaver 210 followed by a weighted output equaliser of the Log-MAP type supplying flexible values of coded data. These data are deinterleaved in the deinterlever 230 before being decoded by a decoder 240 of the Log-MAP type with weighted output. The flexible values issuing from the decoder 240 are submitted to a decision device 250 supplying the corresponding hard values. The weighted value at the input of the decoder 240 are subtracted from the output values <u>at 241</u> in order to supply extrinsic information e <u>to interleaver 270</u>. After interleaving, the extrinsic information is on the one hand subtracted <u>in</u>

221 at the output of the equaliser 220 and on the other hand remodulated by modulator 280 before being transmitted to the equaliser. From the symbols received and the remodulated extrinsic information, the equaliser 220 proceeds with a new a priori estimation. The turboequaliser thus carries out a predetermined number of iterations on a block of symbols. An error correction check 260 at the output of 250 diagnoses the presence or absence of errors, the iteration process is interrupted without the iterations without having to wait for the predetermined number $n_{iterations}$. The stoppage criterion can alternatively relate to the weighted values, as seen above.

Please replace the paragraph beginning at page 4, line 24, with the following rewritten paragraph:

A reduction in the latency time can be achieved by reducing the size of the blocks, at the cost however, as seen in Fig. 3, of a correlative reduction in the performance of the system. One problem ~~at the basis of the invention~~ is to determine, without degradation of the performance, a block size N making it possible to obtain a lower latency time than in the state of the art.

Please replace the paragraph beginning at page 5, line 1, with the following rewritten paragraph:

The general problem ~~at the basis of the invention~~ is to determine, without degradation of performance, a block size N allowing a lower expenditure of resources than in the state of the art.

Page 5, between lines 3 and 4, please insert the section heading:

SUMMARY OF THE INVENTION

Please replace the paragraph beginning at page 5, line 14, with the following rewritten paragraph:

Advantageously, for a size which is a submultiple by a given factor k and a given maximum number of iterations, the ~~said~~ mean number of iterations is determined according to the signal to noise ratio as the mean value of the number of iterations which would be effected by the iterative decoding for each block of a succession of blocks of submultiple size, the iterations being stopped if the block of submultiple size satisfies a predetermined reliability criterion or if the number of iterations for this block reaches the ~~said~~ given maximum number of iterations.

Please replace the paragraph beginning at page 5, line 26, with the following rewritten paragraph:

The ~~said~~ search can be limited to the integers which have a value greater than a predetermined value.

Please replace the paragraph beginning at page 5, line 28, with the following rewritten paragraph:

According to one embodiment, there is determined, prior to the search, the maximum number of iterations for a normal block size, compatible with a maximum predetermined decoding time, and the search amongst the ~~said~~ plurality of submultiple block sizes and the ~~said~~ plurality of integers is limited to the values such that the mean number of iterations which would be effected by the iterative decoding on a block of submultiple size is less than the ~~said~~ maximum number of iterations.

Please replace the paragraph beginning at page 6, line 1, with the following rewritten paragraph:

The invention is also defined by a method of iterative decoding of coded blocks of data, the blocks having an initial size, the ~~said~~ method determining an optimum block size and a maximum number of iterations associated with this size by the ~~optimisation~~ optimization method disclosed above. The data in a block of initial size having been coded as a sequence of sub-blocks of optimum size, the sub-blocks are decoded, one by one, by a succession of iterations of the iterative decoding, the iterations being stopped for a sub-block if the predetermined reliability criterion is satisfied or if the number of iterations reaches the said maximum number of iterations associated with the ~~said~~ optimum size.

Please replace the paragraph beginning at page 6, line 19, with the following rewritten paragraph:

The invention concerns a device for the iterative decoding of blocks of data coded by a turbocoder having means for implementing the ~~optimisation~~ optimization method defined above, the ~~said~~ means supplying an optimum block size and a maximum number of iterations per block of optimum size, the device also comprising means for transmitting optimum block size information to the turbocoder.

Please replace the paragraph beginning at page 6, line 29, with the following rewritten paragraph:

The invention also concerns a device for coding blocks of data, having means for implementing the ~~optimisation~~ optimization method defined above, the ~~said~~ means supplying an optimum block size, the device also comprising means for adaptively modifying the size of the blocks of coded data according to the ~~said~~ optimum block size.